

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

MMB Docket No. **1671-0287**

J & J Reference: **DEP5211USNP**

Group Art Unit: **3733**

In re patent application of: **Christie et al.**

Examiner: **Christina I. Negrelli**

Serial No. **10/748,443**

Confirmation No.: **2376**

Filing Date: **December 30, 2003**

For: **Minimally Invasive Bone Miller Apparatus**

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APPEAL BRIEF

Sir:

This is an appeal under 37 CFR § 41.31 to the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office from the rejection of the claims 24-26, 31-35, and 39-42 of the above-identified patent application. These claims were indicated as finally rejected in an Office Action dated September 1, 2009. The \$540.00 fee required under 37 CFR § 41.20(b) (2) is submitted herewith. Also, please provide any extensions of time that may be necessary and charge any fees that may be due to Account No. 13-0014, but not to include any payment of issue fees.

(1) REAL PARTY IN INTEREST

DePuy Products, Inc. of Warsaw, Indiana is the assignee of this patent application, and the real party in interest.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this patent application (serial no. 10/748,443).

(3) STATUS OF CLAIMS

Claims 1-23 are cancelled

Claims 24-44 are pending in the application.

Claims 24-26, 31-35, and 39-42 are rejected.

Claims 27-30, 36-38, and 43-44 are objected to.

Claims 24-26, 31-35, and 39-42 are being appealed, and are shown in the Appendix attached to this Appeal Brief.

(4) STATUS OF AMENDMENTS

Appellants have filed no amendments after receipt of the September 1, 2009 Office Action (the “Office Action”).

(5) SUMMARY OF CLAIMED SUBJECT MATTERClaim 24

Claim 24 is an independent claim. Claim 24 recites:

A bone miller system (see, e.g. Appellants' specification at page 10, lines 15-18 and reference number 20 of FIG. 2) comprising:

a shell configured for insertion within a bone cavity (see, e.g. Appellants' specification at page 10, lines 17-22 and reference number 26 of FIG. 2) and including a shaft cavity (see, e.g. Appellants' specification at page 11, lines 11-14 and reference number 46 of FIG. 2);

a frame shaft (see, e.g. Appellants' specification at page 10, lines 17-22 and reference number 24 of FIG. 2) configured for sliding reception into the shaft cavity (see, e.g. Appellants' specification at page 11, lines 5-6 and reference numbers 24 and 26 of FIG. 2) along a longitudinal axis of the shaft cavity (see, e.g. Appellants' specification at page 11, lines 8-9 and reference number 40 of FIG. 2);

at least one cutter (see, e.g. Appellants' specification at page 9, lines 3-5 and reference number 22 of FIG. 2) defining a cutter axis (see, e.g. Appellants' specification at page 9, lines 10-13 and reference number 113 of FIG. 2), the at least one cutter including a first drive joint member (see, e.g. Appellants' specification at page 18, lines 17-19 and reference numbers 116 and 114 of FIG. 2);

a cutter mount (see, e.g. Appellants' specification at page 11, lines 22-23 and reference number 64 of FIG. 2) configured to support the at least one cutter such that the cutter axis intersects the longitudinal axis at a first angle (see, e.g. Appellants'

specification at page 19, line 21 through page 20, line and reference numbers 99, 113 and 66 of FIG. 5);

a drive shaft (see, e.g. Appellants' specification at page 17, lines 10-12 and reference number 128 of FIG. 5) defining a drive shaft axis (see, e.g. Appellants' specification at page 18, lines 19-22 and reference number 142 of FIG. 5), the drive shaft including a proximal end configured to receive rotational force to rotate the drive shaft about the drive shaft axis (see, e.g. Appellants' specification at page 20, lines 10-12 and reference number 146 of FIG. 5), and a distal end with a second drive joint member (see, e.g. Appellants' specification at page 18, lines 13-14 and reference number 156 of FIG. 2), the second drive joint member configured to operably couple with the first drive joint member to rotate the at least one cutter about the cutter axis (see, e.g. Appellants' specification at page 18, lines 17-19 and reference numbers 156 and 116 of FIG. 2); and

a shaft alignment bracket (see, e.g. Appellants' specification at page 11, lines 16-19 and reference number 100 of FIG. 2) configured to support the drive shaft at a fixed angular relationship with respect to the frame shaft (see, e.g. Appellants' specification at page 14, lines 10-13 and reference numbers 105 and 66 of FIG. 10), such that the drive shaft axis intersects the cutter axis at a second angle (see, e.g. Appellants' specification at page 18, lines 19-22 and reference number 194 of FIG. 5), wherein the second angle is about equal to or greater than the first angle (see, e.g. Appellants' specification at page 19, line 22 through page 20, line 2 and reference numbers 99 and 194 of FIG. 5).

Claim 32

Claim 32 is an independent claim. Claim 32 recites:

A bone miller system (see, e.g. Appellants' specification at page 10, lines 15-18 and reference number 20 of FIG. 2) comprising:

a frame shaft (see, e.g. Appellants' specification at page 10, lines 17-22 and reference number 24 of FIG. 2) defining a longitudinal axis (see, e.g. Appellants' specification at page 11, lines 11-14 and reference number 66 of FIG. 2);

at least one cutter (see, e.g. Appellants' specification at page 9, lines 3-5 and reference number 22 of FIG. 2) defining a cutter axis (see, e.g. Appellants' specification at page 9, lines 10-13 and reference number 113 of FIG. 2), the at least one cutter including a first drive joint member (see, e.g. Appellants' specification at page 18, lines 17-19 and reference numbers 116 and 114 of FIG. 2);

a drive shaft (see, e.g. Appellants' specification at page 17, lines 10-12 and reference number 128 of FIG. 5) defining a drive shaft axis (see, e.g. Appellants' specification at page 18, lines 19-22 and reference number 142 of FIG. 5), the drive shaft including a proximal end configured to receive rotational force to rotate the drive shaft about the drive shaft axis (see, e.g. Appellants' specification at page 20, lines 10-12 and reference number 146 of FIG. 5), and a distal end with a second drive joint member (see, e.g. Appellants' specification at page 18, lines 13-14 and reference number 156 of FIG. 2), the second drive joint member configured to operably couple with the first drive joint member to rotate the at least one cutter about the cutter axis (see, e.g. Appellants' specification at page 18, lines 17- and reference numbers 156 and 116 of FIG. 2); and

a bracket assembly configured to (i) support the at least one cutter such that the cutter axis intersects the longitudinal axis at a first angle (see, e.g. Appellants' specification at page 19, line 21 through page 20, line and reference numbers 99, 113 and

66 of FIG. 5), and (ii) support the drive shaft at a fixed angular relationship with respect to the frame shaft (see, e.g. Appellants' specification at page 14, lines 10-13 and reference numbers 105 and 66 of FIG. 10), wherein the drive shaft axis is about parallel to the longitudinal axis (see, e.g. Appellants' specification at page 14, lines 10-13 and reference number 66 and 105 of FIG. 5).

Claim 39

Claim 39 is an independent claim. Claim 39 recites:

A bone miller system (see, e.g. Appellants' specification at page 10, lines 15-18 and reference number 20 of FIG. 2) comprising:

a frame shaft (see, e.g. Appellants' specification at page 10, lines 17-22 and reference number 24 of FIG. 2) defining a longitudinal axis (see, e.g. Appellants' specification at page 11, lines 11-14 and reference number 66 of FIG. 2);

a cutter mount fixedly attached to the frame shaft (see, e.g. Appellants' specification at page 11, lines 22-23 and reference number 64 of FIG. 2) and defining a cutter mount axis that intersects the longitudinal axis at a first angle (see, e.g. Appellants' specification at page 14, lines 1-4 and reference numbers 98, 99, and 66 of FIG. 5);

a shaft alignment bracket (see, e.g. Appellants' specification at page 11, lines 16-19 and reference number 100 of FIG. 2) fixedly attached to the frame shaft and defining a drive axis (see, e.g. Appellants' specification at page 14, lines 10-13 and reference numbers 105 and 66 of FIG. 10 and), the drive axis substantially parallel to the longitudinal axis (see, e.g. Appellants' specification at page 14, lines 10-13 and reference numbers 105 and 66 of FIG. 10);

at least one cutter (see, e.g. Appellants' specification at page 9, lines 3-5 and reference number 22 of FIG. 2) configured to rotate about the cutter mount axis when the at least one cutter is supported by the cutter mount (see, e.g. Appellants' specification at page 18, lines 17- and reference numbers 156 and 116 of FIG. 2); and

a drive shaft (see, e.g. Appellants' specification at page 17, lines 10-12 and reference number 128 of FIG. 5) configured to rotate about the drive axis when the drive shaft is supported by the shaft alignment bracket (see, e.g. Appellants' specification at page 23, lines 8-10), and configured to operably couple with the at least one cutter to rotate the at least one cutter about the cutter axis (see, e.g. Appellants' specification at page 18, lines 17- and reference numbers 156 and 116 of FIG. 2).

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 24, 26, 31-35, and 39-42 were rejected under 35 USC 102(b) as anticipated by U.S. Patent No. 4,738,256 of Freeman et al. (hereinafter "Freeman").

Claim 25 was rejected under 35 USC 103(a) as obvious over Freeman in view of U.S. Patent No. 5,540,694 of DeCarlo, Jr. et al. (hereinafter "DeCarlo").

(7) ARGUMENT

Claims 24, 26, 31-35, and 39-42 Are Not Anticipated by Freeman

Claims 24, 26, 31-35, and 39-42 stand rejected under 35 U.S.C. §102(b) as being anticipated by Freeman. (Office Action at page 2). Freeman does not disclose all of the components arranged in the manner required by the claims. Therefore, the rejections should be overturned.

Discussion re: Patentability of Claim 24

1. Claim 24

Claim 24 recites:

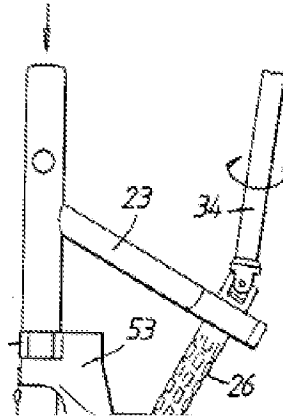
A bone miller system comprising:
 a shell configured for insertion within a bone cavity and including a shaft cavity;
 a frame shaft configured for sliding reception into the shaft cavity along a longitudinal axis of the shaft cavity;
 at least one cutter defining a cutter axis, the at least one cutter including a first drive joint member;
 a cutter mount configured to support the at least one cutter such that the cutter axis intersects the longitudinal axis at a first angle;
 a drive shaft defining a drive shaft axis, the drive shaft including a proximal end configured to receive rotational force to rotate the drive shaft about the drive shaft axis, and a distal end with a second drive joint member, the second drive joint member configured to operably couple with the first drive joint member to rotate the at least one cutter about the cutter axis; and
 a shaft alignment bracket configured to support the drive shaft at a fixed angular relationship with respect to the frame shaft, such that the drive shaft axis intersects the cutter axis at a second angle, wherein the second angle is about equal to or greater than the first angle.

Accordingly, claim 24 recites a cutter mount that supports a cutter and a shaft alignment bracket that supports a drive shaft, which is connected to the cutter by a drive joint, at a fixed angle with respect to the cutter.

2. The Projecting Arm of Freeman is Not a Bracket

The Examiner has alleged that Freeman discloses a bracket that supports a drive shaft at a fixed angle. (Office Action at pages 2-3). The Examiner has mischaracterized Freeman.

Specifically, the Examiner has alleged that reference number 23 of Freeman is a bracket and that reference number 34 is a drive shaft. (Office Action at page 2). FIG. 15 of Freeman, a portion of which is set forth below, depicts the only disclosed configuration of the “shaft 34” and the “fixed projecting arm 23” of Freeman.



As clearly depicted in FIG. 15, the fixed projecting arm 23 does not contact the shaft 34. Rather, the fixed projecting arm 23 supports the cutter 26. (Freeman at column 5, lines 10-16). Accordingly, the fixed projecting arm 23 does not support the shaft as required by the claim.

Moreover, claim 24 requires the bracket to keep the shaft at a fixed angle. A “fixed” angle is an angle that does not change. The fixed projecting arm 23 cannot maintain the shaft 34 at a fixed angle. Specifically, the cutter 26 is connected to the shaft 34 through a joint formed by a fork 32 (see also Freeman at FIG. 6) and a fork 33 (see also Freeman at FIG. 6). (Freeman at column 5, lines 16-18). The joint by which the fixed projecting arm 23 and the shaft 34 are joined is thus one that allows for the shaft to be positioned at any angle, even when the fixed projecting arm 23 supports the cutter 26 in the manner depicted in FIG. 15. (Freeman at column 5, lines 18-20). Therefore, the fixed projecting arm 23 has no control whatsoever over the angle of the shaft 34. A component that does not control the angle of another component in any way is not the same as a component that maintains another component at a fixed angle.

The Federal Circuit has stated:

Because the Hallmark of anticipation is prior invention, the prior art reference --in order to anticipate under 35 U.S.C. § 102—must not only

disclose all elements of the claim within the four corners of the document, but must also disclose those elements “arranged as in the claim.”

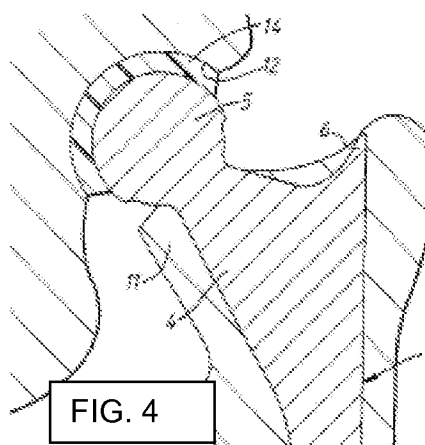
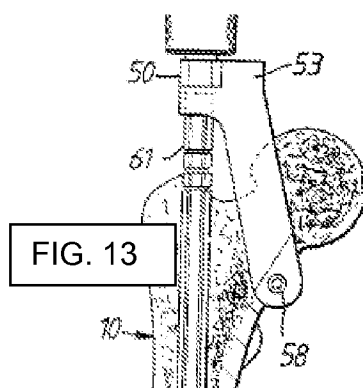
Net Moneyin, Inc. v. Verisign, Inc., 88 USPQ2d 1751, 1758, (Fed. Cir. 2008), citing, *Connell v Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983). The fixed projecting arm 23 is not arranged in the manner required of a bracket by claim 24. Therefore, the fixed projecting arm 23 is not a bracket as recited in claim 24.

Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Freeman does not disclose a bracket arranged in the manner required by claim 24, Freeman does not disclose each and every element of Applicants’ claim 24. Therefore, Freeman does not anticipate claim 24.

3. The Pin of Freeman is Not a Cutter Mount

The Examiner has alleged that Freeman discloses a cutter mount that supports a cutter. (Office Action at pages 2-3). The Examiner has mischaracterized Freeman.

Specifically, the Examiner has alleged that reference number 58 of Freeman is a cutter mount. (Office Action at page 2). Reference number 58 of Freeman identifies a “locating pin.” The manner in which the locating pin 58 is used is described at column 5, lines 62-68 of Freeman with reference to FIG. 13. There, Freeman describes “adjusting the device until pin 58 comes to rest just below the lower face of the neck 11 of the femur.” This configuration, depicted in FIG. 13 below, is best understood with further reference to FIG. 4, also set forth below.



As clearly understood in consideration of FIGs. 4 and 13, along with the description in Freeman at column 5, lines 62-68, the pin 58 is brought into contact with the femur 10. Thus, when the side plate 53 is used in a configuration including the cutter 26 as depicted in FIG. 15, the locating pin 58 is in contact with the femur 10. Thus, the pin 58 cannot possibly support the cutter 26. Rather, the locating pin 58 is used to identify “the maximum allowable depth to which the implant 1 can be inserted while still safely retaining its wedge portion 4 within bony neck 11.” (Freeman at column 6, lines 2-4).

Accordingly, the pin 58 does not provide any support whatsoever to the cutter. A component which does not support another component is not the same as a component that supports another component.

The Federal Circuit has stated:

Because the Hallmark of anticipation is prior invention, the prior art reference --in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements “arranged as in the claim.”

Net Moneyin, Inc. v. Verisign, Inc., 88 USPQ2d 1751, 1758, (Fed. Cir. 2008), citing,

Connell v Sears, Roebuck & Co., 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir.

1983). The locating pin 58 is not arranged in the manner required of a cutter support by claim 24. Therefore, the locating pin 58 is not a cutter support as recited in claim 24.

Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Freeman does not disclose a cutter support arranged in the manner required by claim 24, Freeman does not disclose each and every element of Applicants' claim 24. Therefore, Freeman does not anticipate claim 24.

4. Conclusion

For any or all of the above reasons, the Board of Appeals is respectfully requested to reverse the rejection of claim 24.

Discussion re: Patentability of Claims 26 and 31

Claims 26 and 31 depend directly from claim 24 and include all of the limitations of claim 24. The Examiner rejected claims 26 and 31 based upon the same prior art discussed above with respect to claim 24. Accordingly, for the same reasons set forth above with respect to claim 24, claims 26 and 31 are patentable over the prior art.

Discussion re: Patentability of Claim 32

1. Claim 32

Claim 32 recites:

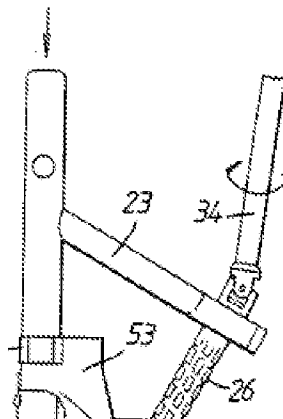
A bone miller system comprising:
 a frame shaft defining a longitudinal axis;
 at least one cutter defining a cutter axis, the at least one cutter including a first drive joint member;
 a drive shaft defining a drive shaft axis, the drive shaft including a proximal end configured to receive rotational force to rotate the drive shaft about the drive shaft axis, and a distal end with a second drive joint member, the second drive joint member configured to operably couple with the first drive joint member to rotate the at least one cutter about the cutter axis; and
 a bracket assembly configured to (i) support the at least one cutter such that the cutter axis intersects the longitudinal axis at a first angle, and (ii) support the drive shaft at a fixed angular relationship with respect to the frame shaft, wherein the drive shaft axis is about parallel to the longitudinal axis.

Accordingly, claim 32 recites a bracket assembly that supports a drive shaft at a fixed angle with respect to a frame shaft.

2. The Projecting Arm and Pin of Freeman Are Not a Bracket Assembly

The Examiner has alleged that Freeman discloses a bracket assembly that supports a drive shaft at a fixed angle. (Office Action at pages 2-3). The Examiner has mischaracterized Freeman.

Specifically, the Examiner has alleged that reference numbers 23 and 58 of Freeman are a bracket assembly and that reference number 34 is a drive shaft. (Office Action at page 3). FIG. 15 of Freeman, a portion of which is set forth below, depicts the only disclosed configuration of the “shaft 34” and the “fixed projecting arm 23” of Freeman.



As clearly depicted in FIG. 15, the fixed projecting arm 23 does not contact the shaft 34. Rather, the fixed projecting arm 23 supports the cutter 26. (Freeman at column 5, lines 10-16). Accordingly, the fixed projecting arm 23 does not support the shaft as required by the claim.

Moreover, claim 32 requires the bracket to keep the shaft at a fixed angle with respect to the frame shaft. The Examiner never identifies what the alleged “frame shaft” is in the device of Freeman, nonetheless, the combination of the locating pin 58 and the fixed projecting arm 23 has no control whatsoever over the angle at which the shaft 34 is positioned. As discussed above, the cutter 26 is connected to the shaft 34 through a joint formed by a fork 32 (see also Freeman at FIG. 6) and a fork 33 (see also Freeman at FIG. 6). (Freeman at column 5, lines 16-18). The joint by which the fixed projecting arm 23 and the shaft 34 are joined is thus one that allows for the shaft to be positioned at any angle, even when the fixed projecting arm 23 supports the cutter 26 in the manner depicted in FIG. 15. (Freeman at column 5, lines 18-20). Therefore, the fixed projecting arm 23 and locating pin 58 have no control, jointly or separately, over the angle of the shaft 34. Two components that do not control the angle of a third component in any way is not the same as an assembly that maintains another component at a fixed angle.

The Federal Circuit has stated:

Because the Hallmark of anticipation is prior invention, the prior art reference --in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements “arranged as in the claim.”

Net Moneyin, Inc. v. Verisign, Inc., 88 USPQ2d 1751, 1758, (Fed. Cir. 2008), citing, *Connell v Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983). The fixed projecting arm 23 and locating pin 58 are not arranged in the manner required of an assembly by claim 32. Therefore, the fixed projecting arm 23 and locating pin 58 are not an assembly as recited in claim 32.

Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Freeman does not disclose an

assembly arranged in the manner required by claim 32, Freeman does not disclose each and every element of Applicants' claim 32. Therefore, Freeman does not anticipate claim 32.

3. Conclusion

For any or all of the above reasons, the Board of Appeals is respectfully requested to reverse the rejection of claim 32.

Discussion re: Patentability of Claims 33-34

Claims 33-34 depend, either directly or by way of an intermediate claim, from claim 32 and include all of the limitations of claim 32. The Examiner rejected claims 33-34 based upon the same prior art discussed above with respect to claim 32. Accordingly, for at least the same reasons set forth above with respect to claim 32, claims 33-34 are patentable over the prior art.

Discussion re: Patentability of Claim 35

1. Claim 35

Claim 35 recites:

The system of claim 32, wherein:
the at least one cutter comprises a cutting surface having an outer diameter, and an end portion with a bearing surface having an outer diameter larger than the outer diameter of the cutting surface; and
the bracket assembly comprises a bearing surface for rotatably mating with the bearing surface of the cutter.

Accordingly, claim 35 recites a bearing surface on the cutter that has a diameter larger than the diameter of the cutting surface.

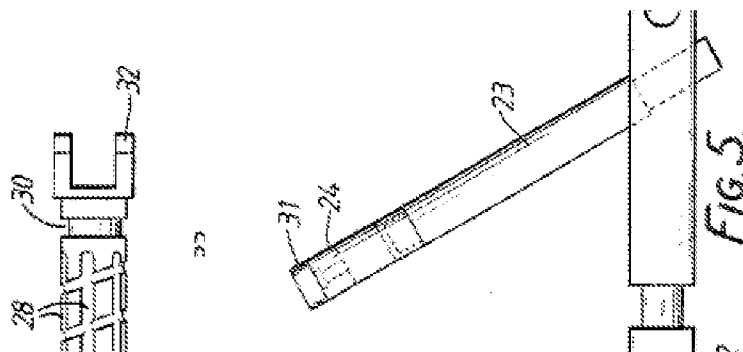
2. Argument of Claim 32 Applies

As an initial matter, claim 35 depends from claim 32 and includes all of the limitations of claim 32. The Examiner rejected claim 35 based upon the same prior art discussed above with respect to claim 32. Accordingly, for at least the same reasons set forth above with respect to claim 32, claim 35 is patentable over the prior art.

3. The Examiner has Mischaracterized Freeman

The Examiner has alleged that Freeman discloses a bearing surface on the cutter that has a diameter larger than the diameter of the cutting surface. (Office Action at page 3). The Examiner has mischaracterized Freeman.

Specifically, the Examiner has alleged that a surface “near ref 32” is a bearing surface that is larger than the diameter of the cutting surface. (Office Action at page 3). The manner in which the cutter 26 is maintained in the projecting arm 23 of Freeman is described at column 5, lines 10-16 and can be understood with further reference to FIGs. 5 and 6 which are provided below (FIG. 6 is on the left).



As described by Freeman, longitudinal displacement of the cutter 26 is effected by engaging the neck 30 of the cutter 26 with a knurl headed screw 31. Thus, the walls of

the neck 30, which are depicted to extend to the *same* diameter as the cutting surface of the cutter 26, is the bearing surface for the Freeman device. The fork 32 is not a bearing surface.

The Federal Circuit has stated:

Because the Hallmark of anticipation is prior invention, the prior art reference --in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements “arranged as in the claim.”

Net Moneyin, Inc. v. Verisign, Inc., 88 USPQ2d 1751, 1758, (Fed. Cir. 2008), citing, *Connell v Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983). The fork 32 is not arranged in the manner required of a bearing surface by claim 35. Therefore, the fork 32 is not a bearing surface as recited in claim 24.

Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Freeman does not disclose a bearing surface arranged in the manner required by claim 35, Freeman does not disclose each and every element of Applicants’ claim 35. Therefore, Freeman does not anticipate claim 35.

4. Conclusion

For any or all of the above reasons, the Board of Appeals is respectfully requested to reverse the rejection of claim 35.

Discussion re: Patentability of Claim 39

1. Claim 39

Claim 39 recites:

A bone miller system comprising:
a frame shaft defining a longitudinal axis;

a cutter mount fixedly attached to the frame shaft and defining a cutter mount axis that intersects the longitudinal axis at a first angle;
 a shaft alignment bracket fixedly attached to the frame shaft and defining a drive axis, the drive axis substantially parallel to the longitudinal axis;
 at least one cutter configured to rotate about the cutter mount axis when the at least one cutter is supported by the cutter mount; and
 a drive shaft configured to rotate about the drive axis when the drive shaft is supported by the shaft alignment bracket, and configured to operably couple with the at least one cutter to rotate the at least one cutter about the cutter axis.

Accordingly, claim 39 recites a cutter mount fixedly attached to a frame shaft and a shaft alignment bracket that is also fixedly attached to the frame shaft and which defines a drive axis about which a drive shaft rotates.

2. Anticipation has Not Been Properly Alleged

The Office Action appears to allege that the elements of claim 24 are disclosed by Freeman starting at page 2 and continuing to page 3. (Office Action at pages 2-3). The Office Action further appears to allege that the elements of claim 32 are disclosed by Freeman starting at the first full paragraph of page 3. (Office Action at page 3). There does not appear to be, however, any treatment of the claims 39-42 other than the sentence on page 2 stating that the claims have been rejected.

37 CFR 1.104 requires that:

In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, *the particular part relied on must be designated as nearly as practicable*. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified. (Emphasis added).

The device of Freeman is different than the invention of claim 39. Accordingly, under 37 CFR 1.104, the Examiner is required to identify the particular part of Freeman relied

upon *as nearly as practicable*. Merely identifying a patent number does not comply with 37 CFR 1.104. Therefore, the Examiner's rejection of claim 39 based upon Freeman is not complete and the Board of Appeals is respectfully requested to reverse this rejection of claim 39.

3. Freeman Does Not Disclose a Mount and a Bracket Fixed to a Shaft

Moreover, even if a proper allegation of anticipation had been made, such allegation would be directly contradicted by the express description of the Freeman device.

For example, claim 39 requires both the cutter mount and the alignment bracket to be fixedly mounted to a frame shaft. As noted above, the Examiner never identifies an alleged "frame shaft" in the device of Freeman. The Examiner does, however, allege the locating pin 58 to be a cutter mount (see Office Action at pages 2 and 3) and further alleges that the fixed projecting arm 23 is a shaft alignment bracket (see Office Action at pages 2 and 3). The only component to which the locating pin 58 is directly "fixedly" attached is the plate 53. (Freeman at column 5, lines 51-53 and FIG. 13). The plate 53 is further attached to a fork 50. (Freeman at column 5, lines 48-50 and FIGs. 10-12). The fork 50 "can slidably engage the upper portion of a finding rod (FIG. 13), a reaming device (FIG. 14), or the stem 20 of the tool described above (FIG. 15)." (Freeman at column 5, lines 40-44 and FIGs. 13-15). Therefore, the locating pin 58 is "fixedly" attached, at most, to only the plate 53 and the neck 50.

Accordingly, to anticipate the mount and bracket of claim 39, the fixed projecting arm 23 must be fixedly attached to one of the locating pin 58, the plate 53, or the neck 50.

The fixed projecting arm 23, however, appears to be fixedly attached only to the stem 20. (See, e.g., Freeman at FIG. 5 and column 4, line 65 through column 5, line 4). Thus, the only component to which both the locating pin 58 and the fixed projecting arm 23 are connected in any manner is the stem 20. As noted above, however, the fork 50 “slidably engages” the stem 20. A component slidably engaged with another component is not the same as a component fixedly mounted on another component. Accordingly, even assuming *arguendo* that the stem 20 is a frame shaft, the locating pin 58 is not fixedly attached to the stem 20 as required by claim 39.

The Federal Circuit has stated:

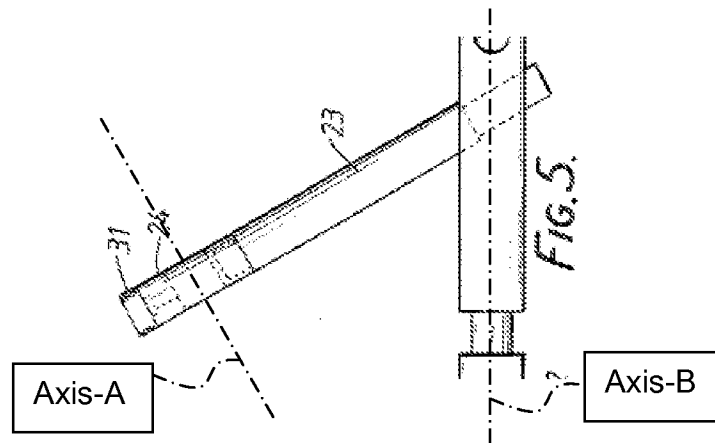
Because the Hallmark of anticipation is prior invention, the prior art reference --in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements “arranged as in the claim.”

Net Moneyin, Inc. v. Verisign, Inc., 88 USPQ2d 1751, 1758, (Fed. Cir. 2008), citing, *Connell v Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983). The fixed projecting arm 23 and locating pin 58 are not arranged in the manner required by claim 39. Therefore, the fixed projecting arm 23 and locating pin 58 are not the cutter mount and alignment bracket as recited in claim 39.

Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Freeman does not disclose a cutter mount and alignment bracket arranged in the manner required by claim 39, Freeman does not disclose each and every element of Applicants’ claim 39. Therefore, Freeman does not anticipate claim 39.

4. Freeman's Arm is Not A Bracket

Moreover, Freeman does not disclose a bracket configured in the manner required by claim 39. Specifically, claim 39 requires a bracket to define a drive axis, about which a drive shaft rotates, which is substantially parallel to a longitudinal axis of a frame shaft. As noted above, the Examiner has in other claims asserted that the fixed projecting arm 23 of Freeman is a bracket. As seen most clearly in FIG. 5, the center of the ring 24 of the fixed projecting arm 23 defines an axis which is annotated as "Axis A" below while the stem 20 (the only component that is arguably a frame shaft) defines a longitudinal axis which is annotated as "Axis B" below.



The axis A defined by the fixed projecting arm 23 thus is clearly not "substantially parallel" to the longitudinal axis B of the stem 20. An axis that is not substantially parallel to another axis is not the same as an axis that is substantially parallel to another axis. Therefore, the fixed projecting arm 23 is not configured in the manner required by claim 39.

Anticipation under 35 U.S.C. § 102 is proper only if the prior art reference discloses each and every element of the claim. Since Freeman does not disclose a bracket

arranged in the manner required by claim 39, Freeman does not disclose each and every element of Applicants' claim 39. Therefore, Freeman does not anticipate claim 39.

5. Conclusion

For any or all of the above reasons, the Board of Appeals is respectfully requested to reverse the rejection of claim 39.

Discussion re: Patentability of Claims 40-41

Claims 40-41 depend, either directly or by way of an intermediate claim, from claim 39 and include all of the limitations of claim 39. The Examiner rejected claims 40-41 based upon the same prior art discussed above with respect to claim 39. Accordingly, for at least the same reasons set forth above with respect to claim 39, claims 40-41 are patentable over the prior art.

Discussion re: Patentability of Claim 42

1. Claim 42

Claim 42 recites:

The system of claim 39, wherein:
 the at least one cutter comprises a cutting surface having an outer diameter, and an end portion with a bearing surface having an outer diameter larger than the outer diameter of the cutting surface; and
 the cutter mount comprises a bearing surface for rotatably mating with the bearing surface of the cutter.

Accordingly, claim 42 recites a bearing surface on the cutter that has a diameter larger than the diameter of the cutting surface.

2. Argument of Claim 39 Applies

As an initial matter, claim 42 depends from claim 39 and includes all of the limitations of claim 39. The Examiner rejected claim 42 based upon the same prior art discussed above with respect to claim 39. Accordingly, for at least the same reasons set forth above with respect to claim 39, claim 42 is patentable over the prior art.

3. Argument of Claim 35 Applies

Moreover, claim 42 requires a bearing surface on the cutter that has a diameter larger than the diameter of the cutting surface. This is the same limitation discussed above with respect to claim 35. The Examiner rejected claim 42 based upon the same prior art discussed above with respect to claim 35. Accordingly, for at least the same reasons set forth above with respect to the limitation added by claim 35, claim 42 is patentable over the prior art.

4. Conclusion

For any or all of the above reasons, the Board of Appeals is respectfully requested to reverse the rejection of claim 42.

Claim 25 is Not Obvious over Freeman

Claim 25 stands rejected under 35 U.S.C. §103(a) as being obvious over Freeman in view of DeCarlo. (Office Action at page 4). The proposed modification does not arrive at the invention claimed. Therefore, the rejections should be overturned.

Specifically, claim 25 depends from claim 24 and adds a limitation of a plurality of cutters. The Examiner rejected claim 25 based primarily on Freeman with additional reference to DeCarlo for disclosing a plurality of cutters. Even if the device of Freeman is modified to include a plurality of cutters as proposed by the Examiner, such modification fails to correct the deficiencies of Freeman with respect to the limitations of claim 24 that were discussed above. Accordingly, the proposed modification fails to arrive at the invention of claim 25 and the Board of Appeals is respectfully requested to reverse the rejection of claim 25.

CONCLUSION

Claims 24, 26, 31-35, and 39-42 are not anticipated Freeman and claim 25 is not obvious over Freeman in view of DeCarlo. Accordingly, the Board of Appeals is respectfully requested to overturn the rejection of claim 24-26, 31-35, and 39-42.

Respectfully submitted,

MAGINOT, MOORE & BECK LLP

/James D. Wood/

James D. Wood
Attorney for Appellants
Registration No. 43,285

January 29, 2010
Maginot, Moore & Beck LLP
Chase Tower
111 Monument Circle, Suite 3250
Indianapolis, Indiana 46204-5115
Telephone (317) 638-2922

(8) CLAIMS APPENDIX

Claim 24. A bone miller system comprising:

- a shell configured for insertion within a bone cavity and including a shaft cavity;
- a frame shaft configured for sliding reception into the shaft cavity along a longitudinal axis of the shaft cavity;
- at least one cutter defining a cutter axis, the at least one cutter including a first drive joint member;
- a cutter mount configured to support the at least one cutter such that the cutter axis intersects the longitudinal axis at a first angle;
- a drive shaft defining a drive shaft axis, the drive shaft including a proximal end configured to receive rotational force to rotate the drive shaft about the drive shaft axis, and a distal end with a second drive joint member, the second drive joint member configured to operably couple with the first drive joint member to rotate the at least one cutter about the cutter axis; and
- a shaft alignment bracket configured to support the drive shaft at a fixed angular relationship with respect to the frame shaft, such that the drive shaft axis intersects the cutter axis at a second angle, wherein the second angle is about equal to or greater than the first angle.

Claim 25. The bone miller system of claim 24, wherein the at least one cutter comprises a plurality of cutters, each of the plurality of cutters having a diameter different from the diameter of each of the other of the plurality of cutters.

Claim 26. The bone miller system of claim 24, wherein one of the first drive joint member and the second drive joint member comprises a pin and the other of the first drive joint member and the second drive joint member comprises a fork.

Claim 31. The bone miller system of claim 24, wherein the cutter mount is fixedly supported by the frame shaft.

Claim 32. A bone miller system comprising:

- a frame shaft defining a longitudinal axis;
- at least one cutter defining a cutter axis, the at least one cutter including a first drive joint member;
- a drive shaft defining a drive shaft axis, the drive shaft including a proximal end configured to receive rotational force to rotate the drive shaft about the drive shaft axis, and a distal end with a second drive joint member, the second drive joint member configured to operably couple with the first drive joint member to rotate the at least one cutter about the cutter axis; and
- a bracket assembly configured to (i) support the at least one cutter such that the cutter axis intersects the longitudinal axis at a first angle, and (ii) support the drive shaft at a fixed angular relationship with respect to the frame shaft, wherein the drive shaft axis is about parallel to the longitudinal axis.

Claim 33. The system of claim 32, further comprising:

a shell configured for insertion within a bone cavity and including a shaft cavity configured for sliding reception of the frame shaft.

Claim 34. The system of claim 33, the shell further comprising:

a slot extending along the shell and sized to slidably receive a portion of the bracket assembly.

Claim 35. The system of claim 32, wherein:

the at least one cutter comprises a cutting surface having an outer diameter, and an end portion with a bearing surface having an outer diameter larger than the outer diameter of the cutting surface; and

the bracket assembly comprises a bearing surface for rotatably mating with the bearing surface of the cutter.

Claim 39. A bone miller system comprising:

a frame shaft defining a longitudinal axis;

a cutter mount fixedly attached to the frame shaft and defining a cutter mount axis that intersects the longitudinal axis at a first angle;

a shaft alignment bracket fixedly attached to the frame shaft and defining a drive axis, the drive axis substantially parallel to the longitudinal axis;

at least one cutter configured to rotate about the cutter mount axis when the at least one cutter is supported by the cutter mount; and

a drive shaft configured to rotate about the drive axis when the drive shaft is supported by the shaft alignment bracket, and configured to operably couple with the at least one cutter to rotate the at least one cutter about the cutter axis.

Claim 40. The system of claim 39, further comprising:

a shell configured for insertion within a bone cavity and including a shaft cavity configured for sliding reception of the frame shaft.

Claim 41. The system of claim 40, the shell further comprising:

a slot extending along the shell and sized to slidably receive a portion of the cutter mount.

Claim 42. The system of claim 39, wherein:

the at least one cutter comprises a cutting surface having an outer diameter, and an end portion with a bearing surface having an outer diameter larger than the outer diameter of the cutting surface; and

the cutter mount comprises a bearing surface for rotatably mating with the bearing surface of the cutter.

(9) EVIDENCE APPENDIX

None.

(10) RELATED PROCEEDINGS APPENDIX

None.